

CLAIMS

We claim:

- 1 1. A method of reducing contouring in a liquid crystal on silicon (LCOS) display,
2 said method comprising:
3 receiving a frame-doubled input signal comprising a positive picture and a
4 negative picture; and
5 applying a first dither to said input signal, said first dither selectively modifying
6 a primary-color gamma value of one of said pictures resulting in reduced contouring
7 in said input signal.
- 8 2. The method of claim 1, wherein said first dither is specified by a gamma
9 table.
- 10 3. The method of claim 1, wherein said one of said pictures is said negative
11 picture.
- 12 4. The method of claim 1, wherein said one of said pictures is said positive
13 picture.
- 14 5. The method of claim 1, wherein said input signal is an 8-bit signal and said
15 output signal is a 10-bit signal.
- 16 6. The method of claim 1, wherein said primary-color is selected from the group
17 consisting of red, green, and blue.
- 18 7. The method of claim 1, further comprising:

1 14. A method of reducing contouring in a liquid crystal on silicon (LCOS) display,
2 said method comprising:
3 (a) receiving a frame-doubled input signal comprising a positive picture
4 and a negative picture;

(b) applying a first dither to said input signal, said first dither specified by a gamma table and selectively modifying a primary-color gamma value of one of said pictures; and

(c) applying a second dither to said input signal at an input of said gamma table, wherein said first and second dither result in an output signal having reduced brightness level repetition for consecutive input levels.

15. A multiple-dither system for reducing contouring in a display comprising:
a memory having a gamma table stored therein, said gamma table specifying a first dither to apply to a received, frame-doubled input signal comprising a positive and a negative picture, wherein said first dither selectively modifies at least one primary-color gamma value of one of said pictures;
a processor communicatively linked to said memory, said processor generating said gamma table and loading said gamma table in said memory;
a dither unit communicatively linked to said processor, said dither unit applying a second dither comprising a one-least-significant-bit dither signal to the input signal at an input to said gamma table; and
a liquid crystal on silicon display for producing an image based upon said multiple-dithered input signal.

16. The system of claim 15, further comprising:
an analog-to-digital converter, said analog to digital converter digitizing said input signal and providing said digitized input signal to said processor.

17. The system of claim 15, wherein said one of said pictures is said negative picture and said gamma table has a positive portion and a dithered negative portion.

18. The system of claim 15, wherein said one of said pictures is said positive picture and said gamma table has a dithered positive portion and a negative portion.